Atkinson (I. E.)

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# SOME PHASES



OF

# CEREBRAL SYPHILIS

BY

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READ BEFORE THE BALTIMORE CLINICAL SOCIETY,
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I have been led to report the following examples of cerebral disease of syphilitic origin, not because they present characters marking them as unusual or specially worthy of notice, but rather because they afford a valid excuse for bringing before this Society this evening a subject which has, of late years, attracted considerable attention. I trust that no further apology is needed for relating and commenting upon cases, whose symptoms are usually considered as belonging to conditions of most hopeless and fatal significance, and which (their essential nature remaining unrecognized) would most probably result in irremediable disaster to both body and mind. It must, then, surely be profitable to keep constantly in mind the frequency with which syphilis attacks the intra-cranial regions; the almost constant tendency for its lesions (when left untreated) to end in imbecility and death; and, finally, the promptitude with which these lesions may often be relieved, and sometimes cured, by appropriate treatment. It is, therefore, of the greatest importance for us to learn to discriminate between these symptoms

of cerebral disease due to syphilis and those due to other causes; and although it is universally admitted that there is not a single symptom of brain disease that syphilis can claim as its exclusive property, there are, nevertheless, often such associations of signs and peculiarities of their combinations that we are enabled to arrive, in very many cases, at correct conclusions.

Case I.—John P., aged 28, apparently of white descent, but really with a slight admixture of negro blood, applied at the Special Dispensary January 6, 1876, for treatment. One was immediately struck by his peculiar earthy pallor, his dazed expression, and his slow, monotonous and dreamy articulation, corresponding to the general sluggishness of his cerebration. He gave the following history:

In 1866, while employed upon a Mississippi steamboat, he had a chancre. This was succeeded by cutaneous eruptions and certain other symptoms, the nature of which he does not remember. Five years ago (in 1871), he "lost the use of his limbs, and could move nothing but his head." This condition lasted one month, and then disappeared rapidly under treatment. Again, in 1872, he was paralyzed. (His memory does not enable him to recall his exact condition upon these occasions, and, I think, is not to be trusted, beyond the simple recollection of having been paralyzed.) After his recovery from the second attack, he remained well, with the exception of certain cutaneous eruptions, until the supervention of fits, limited to the right side, and principally to the right arm two years ago, *followed* by loss of consciousness. At first, these fits recurred every fifteen days, but were now less frequent. During the five years preceding the date of my acquaintance with him, he had been subject to dreadful headache, which always began at the right parietal protuberance, but which was also of great intensity over the left parietal region. His condition on January 6, 1876, was noted as follows: There remained no trace of paralysis; his general health was very much reduced; his complexion and expression were markedly cachectic; he seemed bewildered, dazed, as though half awake. His speech was slow, drawling and monotonous, although his answers were to the point. There were no cutaneous eruptions. His thoracic organs were healthy, and, indeed, no symptoms of disease other than those about to be mentioned, were observed. He reported a notable decrease in sexual power. He had been suffering of late with atrocious headache, which had grown steadily worse,

in spite of an electrical treatment to which he had been subjected. There was a very perceptible enlargement at that part of the right parietal bone, where the pain always began (just in front of the parietal eminence), and this region was very tender on pressure. Upon the left side of the head, where the pain was nearly as intense, there was no enlargement nor tenderness. A mixture of potassium iodide (grs. 5) and of iodine (grs. $\frac{1}{10}$) was given thrice daily, and immediate improvement was the result. His attendance was, however, very irregular.

His wife came with him (Aug. 5), and reported that he had recently had a return of the fits, and that his bad symptoms recurred as soon as he neglected his treatment. He now declared that the fits were preceded by an unpleasant taste, which sometimes would appear some hours before the paroxysm. At this time, he would feel dejected, and as if he had committed a crime. The convulsions would next begin, *without a premonitory cry*, with a twitching of the right arm, which would continue for some minutes before he would lose consciousness. Sometimes he would remain conscious throughout. He never bit his tongue. After the seizure, the extremity would feel benumbed and heavy. Sometimes the fit would be preceded or replaced by mental disorder of a decided character. He would become bewildered, and would act strangely. Upon one occasion, he threw away, one at a time, a number of bank bills belonging to his employer. Upon this occasion, his movements were observed, and the notes recovered by those watching him. His urine was faintly albuminous, and contained a few hyaline and faintly granular casts. He professed never to have had dropsy; but upon one occasion, he stated, his shoes were worn with difficulty; he attributed this, however, to long-continued erect posture, in consequence of his occupation (at the time) as waiter in a saloon. He had a series of convulsions on Dec. 27th, 1876, which were not confined this time to his right arm.

This patient continues under observation from time to time. He suffers often from headache, which at times is frightful, and occasionally from fits. His symptoms always yield to mercury and potassium iodide, though it has sometimes been necessary to increase the dose of the latter to 30 grains thrice daily. His attendance has been too irregular to justify any hopes of a permanent cure. His urine I have frequently examined, and have always found a small amount of albumen and hyaline and finely granular tube casts in it.

Upon a single occasion, I noticed that he was puffy about the eyes. His sight remains good, and has been kindly tested by my friend, Dr. Samuel Theobald, who has given me the following data of his vision:

"Left eye sees $\frac{20}{xxx}$; right eye sees $\frac{20}{xxx}$. $\left.\begin{matrix}\text{Right}\\ \text{Left}\end{matrix}\right\} = \frac{20}{xx}$

That is, vision in both eyes is normal. Vision of left eye is slightly improved, $\frac{20}{xx}$ by $\frac{1}{48}$. Right not improved by glasses. Left reads Jæger No. 1 promptly; right less promptly. Pupils less active than normal, not dilating sufficiently when shaded."

I have selected the foregoing case as one fairly representing that form of epilepsy in which syphilis may be recognized as the causative influence—not to say, however, that the epilepsy of syphilis offers a single symptom that may not as well be met in the non-syphilitic varieties. On the contrary, it is only by the sum of the symptoms that one is enabled to distinguish essential epilepsy from symptomatic epilepsy in general; while, to decide between the various forms of the latter due to injury, tubercle, non-syphilitic growths, etc., and that due to syphilis, one must have recourse to the history, the general condition of the patient, and to the results of treatment in the given case. While, however, we may not diagnosticate, with certainty, epilepsy as due to syphilis, in the absence of a definite syphilitic history, and the information to be supplied by treatment, it is, nevertheless, possible to arrive frequently at a pretty accurate conclusion after careful consideration of all the signs.

In the first place, it has been noted that, in syphilitic epilepsy, the convulsions first occur at an age at which essential epilepsy begins, but very rarely in adult life, when men and women are most exposed to syphilitic disorders. Again, it has noted, that pain and headache of severe, agonizing character, are apt to precede the convulsive attack by hours, days, weeks, instead of succeeding it in a more or less mild form, as in essential epilepsy, and that this headache is frequently limited to or radiates from a fixed location; and that not seldom the skull is tender to pressure over that point. It has been further observed, that syphilitic epilepsy is very, *very* often only partial—that it is limited to one side, to one ex-

tremity. Hughlings Jackson, indeed, has declared that optic neuritis, along with convulsions, beginning unilaterally, most frequently in the hand, and especially in the two first fingers, form an association of symptoms usually implying syphilitic disease. This statement is agreed to by Dr. Buzzard (*Clinical Aspects of Syphilitic Nervous Affections*, Am. Ed., p. 16).

Fournier says: "A partial epilepsy will almost certainly attest a limited lesion of the cortical motor zone, or, at least, of the parts immediately contiguous to that zone" (*La Syphilis Cerebrale*, p. 211).

This region corresponds to the upper and lower antero-parietal areas of Ferrier, which, with a portion of the postero-parietal lobule, "contain all the motor centres of the limbs, facial muscles and mouth" (*The Functions of the Brain*, New York, 1876, p. 313). According to Fournier, syphilitic epilepsy usually attacks an upper extremity, and always involves, in any given case, the same parts.

All writers have observed that partial syphilitic epilepsy goes through its phases, usually, without destroying the consciousness of the patient, or, at least, only destroying it partially, or after the convulsions have been sometimes present. Finally, it frequently happens that the initial cry is absent. So much, then, for the partial epilepsy of the syphilitic.

Considering next the intervals between the attacks, one finds it possible to recognize again differences between essential and syphilitic epilepsy. (Broadbent, *Lancet*, 1874, vol. 1; Fournier, *op. cit.*, p. 220.) The true epileptic during the interval is apparently well, and only experiences marked deterioration of his general health of mind and body after the disease has lasted long. On the other hand, the syphilitic epileptic, even at the beginning of his seizures, may be profoundly affected in general health, and, invariably, soon shows most decided evidence of cerebral and general disease.

Let it not be forgotten, however, that while the foregoing considerations enable us frequently to advance far towards the diagnosis of syphilitic epilepsy, and certainly make obvious the differences between epilepsy that is essential or simple, and the epilepsy that is symptomatic, they do nor

supply us with evidence which, of itself, points with certainty to a *syphilitic* origin of epilepsy. Fournier, indeed, points out three characteristics belonging, *more especially*, to syphilitic epilepsy (*op. cit.*, p. 226). These are—1st, The late age at which the symptoms originate; 2d, Partial seizures with the preservation of consciousness; 3d, The early combination of other cerebral manifestations with the epileptic phenomena. (Consult article by Schüster on "Syphilitic Epilepsy," *Viertely f. Derm. u. Syph.*, 1876, p. 350.)

The diagnosis, then, between essential and symptomatic epilepsy, can often be definitely made; but before a given case of the latter form can positively be pronounced syphilitic, one must be able to discover, associated with the epileptic condition, a clearly-defined history of syphilis, or, better still, the actual presence of other manifestations of the disease, or the diagnosis must often be held in reserve until the results of treatment can be ascertained. It must not be forgotten, however, that symptomatic epilepsy, due to tumors (non-syphilitic), abscess, etc., may exist in a syphilitic subject—a complication, indeed, not apt to occur. It will always be necessary, moreover, to guard against mistaking some of the manifestations of hysteria for syphilitic brain disease, which may be perfectly simulated (Wunderlich *N. Syd. Soc. Trans.*, *German Clinical Lectures*, 2d series, p. 401).

To turn now, for a moment, to my patient: A comparison of the history of the affection with what has just preceded, will instantly draw attention to the close correspondence of his symptoms with those most characteristic of syphilitic epilepsy. Two years after the initial lesion, he had a paralytic attack. At the end of another year, he had a similar seizure. The real nature of these attacks is not apparent, but from the asserted extent of the paralysis with the rapidity and completeness of recovery, it is probable that they originated in transient meningeal and cortical hyperæmia. Four years later, his epilepsy began. During the interval, various undoubtedly syphilitic symptoms manifested themselves.

It may not be inappropriate to observe here, that epilepsy occurs more especially as a later manifestation of syphilis than any other of the nervous symptoms usually associated with

tertiary or tardy stages; for, while it is daily becoming more apparent that these lesions may occur at a very much earlier period of the disease than was formerly imagined, epilepsy is, of them all, the one least apt to occur as a "precocious" syphilitic disorder of the nervous system, while it is frequently encountered later. (Maureau, *Annales de Dermatol. et de la Syphilis*, X, 2, 1879.)

It is noteworthy, then, 1st. That my patient became epileptic at an age (26 years), when essential epilepsy almost never occurs for the first time. 2d. That his convulsions are and have been, for the most part, limited to the right upper extremity. 3d. That the convulsions always last for some time before he is deprived of consciousness, and that sometimes he remains conscious throughout the attack. 4th. That there is never an initial cry. 5th. That the convulsions have always been *preceded* by atrocious headache. 6th. That his general condition, when first treated by me, was indicative of most marked mental hebetude, associated with a profound cachexia, conditions rapidly improving under anti-syphilitic treatment.

This condition of objective and subjective symptoms justifies, I think, first of all, a diagnosis of symptomatic epilepsy; and next, of epilepsy, symptomatic of syphilitic intra-cranial disease, since we have, in addition, a clear history of syphilis, along with that of the beneficial influence exerted by an anti-syphilitic treatment.

It is curious, in this connection, to observe that while my patient complains of his dreadful headaches, starting near his right parietal eminence; and while the bone at this region is very tender to pressure and so enlarged that, to the eye, a singular "bizarre" appearance of one-sidedness is given to the skull, the convulsions did not occur upon the left side of the body. In the left parietal region there was no tenderness to pressure, nor any enlargement; yet this area has been always complained of as occasioning most intense suffering. While, now, it would seem that convulsions occurring in the left upper extremity, would be, in the present instance, in harmony with what we know of brain function, and would complete the value of my case as a typical one; still, I think

the condition admits of a ready and rational explanation. The extension of the syphilitic process which originated in the dura mater, took place upon the right side, in an outward direction, implicating more especially the cranial bones, in a gummy osteitis; while upon the left side of the cranium, the meningeal infiltration, beginning as upon the other side, has tended rather to invade the cerebral cortex than the parts more external.

To what extent the fibrotic changes in his kidneys have influenced the patient's general health, it is impossible to conjecture. Beyond the slight œdema of the eyelids, there have been no symptoms of Bright's disease, except those derived from urinary examination. Certainly, the latter disease is quite incapable of inducing the series of cerebral phenomena experienced. Whether, indeed, the renal disorder is not an expression of the general disease, is an interesting question, but one with which we need not concern ourselves at present.

From lesions of the convexity of the brain, my next case transfers our attention to syphilitic alterations of the base, since it is unquestionably here that we must look for the origin of the symptoms displayed. The case is as follows:

Case II.—February 1st, 1877, Lizzie Brown, a mulatto prostitute, rather too freely addicted to alcoholic indulgence, 29 years of age, dates the beginning of her syphilis to a sore upon her vulva, two years ago, which was accompanied by a suppurating bubo. One year ago, she was treated by me for a simple, non-infecting chancre of the right labium majus. She professed never to have had a skin eruption, but had had sore throat, "rheumatism," alopœcia and cervical adenopathy. Under the ramus of the left jaw (February, 1877) was a glandular swelling. This had been present nearly two years, and was as large as a pigeon's egg. Her record shows that this enlargement suppurated, and was lanced March 9th. From the beginning of the treatment until April 3d, she was kept upon potassium iodide in combination with mercury and tonics. Upon the latter date, she complained of pain in her left eye and dimness of vision, and of much headache. No strabismus was visible; but in looking towards the right she always saw a double image. There was no difference of tension of the eyeballs. The pupils were equal and fairly active.

*March 12th.*—No pronounced improvement. Since day before yesterday, she has had a very decided paralysis of the

right side of her face. She is quite unable to close the right eye. In laughing, the face is drawn much towards the left. The tongue is protruded straight. Power of movement seems to be completely abolished from the right side of the face. In eating, food collects between the cheeks and teeth. Upon the right side she has lost the sense of taste. The muscles of mastication of the right side contract fully. The right side of the face and neck are also involved in a considerable degree of anæsthesia. There is likewise difference in the sense of hearing of the two ears, the right one being much less sensitive than the left. She complains of some pain behind the right condyle, but nothing abnormal can be discovered.

Dr. Russell Murdock kindly examined her eyes for me, and his conclusions were as follows, viz.: (May 26th) "Optic discs 'bombeis;' retina and vessels normal. Vision of left eye, V=$\frac{20}{30}$, right eye, V=$\frac{20}{100}$. Paralysis of seventh nerve of right side complete. Paralysis of sensitive branches of right fifth nerve complete; muscular branches unaffected. Paralysis of sixth nerve, right side." I may add that repeated examinations of the urine have revealed nothing abnormal.

The condition of this patient not improving readily, the dose of potassium iodide was increased. On *May* 1st, she was taking twenty-five grains thrice daily. At this time, distressing evidences of iodism were developed upon the face and buccal and nasal mucous membranes. On *May* 3d, weakness of the right arm was complained of, and the iodide was rapidly pushed. By the 12th, she was taking one drachm of this remedy, with one-twelfth of a grain of the biniodide of mercury thrice daily. The dose was gradually increased to two drachms of the iodide thrice daily, by *July* 1st. On *July* 7th, decided improvement was, for the first time, noted. From this time, improvement was slow but gradual. Towards the end of summer, she went to Washington greatly improved generally, but with a noticeable degree of facial palsy remaining. On *June* 26th, 1878, "Her sight has continued much improved, and she never sees double. There is still much impairment of facial motility, and a trace of anæsthesia persists. For a month past, she has been conscious of a decided loss of power in her right arm, and is sometimes quite unable to retain her grasp upon articles, which are allowed to fall to the ground." On this occasion, alleviation was speedily afforded by moderate doses of the iodide.

This patient remains an occasional visitor at the Dispensary. Her facial paralysis seems to give no promise of fur-

ther improvement. Throughout the whole attack, headache was an insignificant and inconstant symptom.

There was present here, paralysis of three cranial nerves, viz: of the sixth nerve and of the seventh nerve, the portio dura completely, the portio mollis partially; all upon the right side. There was, moreover, hyperæmia of the optic discs. It is quite possible that these symptoms may have resulted from more than one lesion of the brain or meninges: but it is so easy to account for them all as depending upon a single morbid process, that I think we can hardly hesitate. In the first place, it is most probable that the paralysis of all the sensitive fibres of the trigeminal nerve was due to a lesion of the trunk before its division into the three branches, and involved the Gasserian ganglion or the proximal portion of the nerve. At the same time, it will be observed that the muscular fibres of the fifth nerve remained unaffected. The two roots pass through the dura mater at the apex of the petrous portion of the temporal bone. The sensory root here enters the Gasserian ganglion, while the motor root passes *underneath*. The Gasserian ganglion, be it especially remarked, is intimately attached along its upper surface to the dura mater. This latter circumstance may now account for the participation of this ganglion in the lesion of the dura mater, while the motor roots from its position escapes.

Turning now to the sixth nerve, we find that it pierces the dura mater immediately behind the posterior cleinoid process, and passing through the cavernous sinus, enters the orbit through the sphenoidal fissure. The seventh nerve enters the internal auditory meatus after passing forwards and outwards upon the crus cerebelli. Thus, we can readily perceive how these nerves, traversing the dura mater, become involved in an exudative lesion of this membrane, which, in the present instance, we have sufficient reason to consider syphilitic. Let us imagine an area of meningeal infiltration, whose anterior limit extends as far as the left posterior cleinoid process, whose posterior margin reaches and involves the seventh nerve before entering the internal auditory meatus. Within this tract the sixth nerve would penetrate. A syphilitic deposit, of a diffused character, in the dura mater,

would, therefore, readily account for these several paralyses. The incompleteness of the recovery may have been due to an incomplete removal of the exudation which subsequently became organized, and whose pressure upon the nerve fibres was the original cause of the several lesions. The paresis of the right upper extremity was attributable, in all likelihood, to meningeal hyperæmia. The slight engorgement of the optic discs was hardly sufficiently pronounced to be distinctive, but, so far as it went, may be considered as indicative of corresponding intra-cranial changes.

In addition to the gradual supervention of the paralyses, and the multiplicity of the lesions characteristic of syphilitic cerebral affections, this case affords another point of interest in its extraordinary resistance to the action of anti-syphilitic remedies, and the enormous doses required to finally overcome the morbid action. This, however, is not such a very unusual occurrence when syphilis attacks the nervous system; and it is a matter of the utmost importance that this peculiarity should be borne in mind in treating these affections; for, doubtless, many remediable conditions have been, and are still, daily abandoned to their deadly course, after a brief and insufficient anti-syphilitic treatment has convinced the medical man of the non-syphilitic character of their origin.

My third case is one exemplifying destruction of brain substance with more or less permanent results.

Case III.—Ann Maria B., a negress, thirty-four years old, was brought to the Special Dispensary, *February* 26, 1876. Her husband who accompanied her, gave the following history: He contracted pock seventeen years ago and underwent the usual constitutional manifestations. Three years subsequently, he married his present wife. Since then, he claimed to have had no other symptoms than such as he has been treated for by me, (a gummatous ulcer of the penis). The wife has had numerous still-born children, but never a living child. She had not been subject to cutaneous eruption; but for nine years had suffered greatly from severe pain in the head. Sometime in 1874, after retiring for the night, in seemingly perfect health, she was seized with convulsions. She remained in a convulsive state several hours, and during this time frothed at the mouth and bit her tongue. She remained unconscious three days. The attending physician

speedily salivated her. As she regained consciousness, it was noticed that her whole right side was paralysed and that she was quite unable to speak; as far as is remembered, there was no facial paralysis. After two weeks, muscular power began to return and has slowly improved until now (1876), when it is nearly perfect.

For a long time, the only word at her command was the name of her husband, "Frank." Gradually the power to repeat words, when spoken by others, returned to her, and when first seen by me, she was able to command many words, in this manner. The mind, however, had never recovered its former vigor. She could attend to her household duties, such as cooking, washing, etc., and was clean and tidy in her habits, but she could not make purchases or engage in any business transaction. Her menstruation was repeated twice monthly.

At the time of her appearance at the Dispensary, she seemed to be stout and well nourished and presented no evidence of syphilitic disease. It was easy to see, however, that her intellectual condition was far from normal. She was exceedingly timorous, and when questioned, wept. This interfered so much with her examination that some time elapsed before her real condition could be ascertained. Her general health was good and her thoracic organs in healthy condition. A firm tumor of large size was observable in the abdominal cavity, upon the right side, and evidently connected with the uterus.

She was quite unable to recall the names of any, even the most common article; but when told would immediately repeat almost any word; in the next breath, however, she would be unable to remember it. When asked to name a chair, she without hesitation replied "stool;" being corrected she repeated "chair," but when asked immediately afterwards, replied "stool." She could find no word to describe table, but would look perplexed and shake her head, or would endeavor to explain by exclaiming "eat," "supper," etc. It was the same with nearly everything. Some words she could not pronounce at all. "Watch," she could only pronounce "wash" when hearing the word spoken. "Spittoon" being pronounced for her, she could reply no more accurately than "pitsiloon," "pitstoon." Her conversational powers, limited as they were, consisted entirely in the use of nouns and verbs. Thus, when asked upon one occasion, where her husband was, she replied, "Frank—gone—get—money." She was, however, for the most part, unable to converse. Anti-syphi-

litic treatment was prescribed, and though irregularly followed, with satisfactory results.

In *May*, 1877, however, a large and very painful node appeared upon her right humerus, and allowed no rest day or night, until actively attacked by appropriate treatment, when it promptly yielded. Since she has been under observation she has improved in many respects. She no longer becomes alarmed and tearful when spoken to, and is evidently improved in her intellectual condition. When, however, a sentence of more than a few words or expressing more than a single idea is addressed to her, she turns in despair to her companion or shakes her head in perplexity. Her conversational power is but little improved. During a recent interview, indeed, upon meeting me she exclaimed plainly, "watch," showing that she remembered her old difficulty and had surmounted it.

Her urine has been frequently examined and remains healthy. The abdominal tumor is larger and occasions some discomfort. At present she is free from symptoms of syphilis.

The symptoms in this case are referable directly to lesions situated in the cerebral substance itself. The hemiplegia was right-sided and indicated, consequently, a lesion situated in the left side of the brain. The aphasia likewise affords confirmatory evidence that the left side of the brain was diseased and enables us to locate more precisely the seat of the lesion. It is of interest, however, to consider, for a moment, the probable origin of this morbid process in the present instance; whether it was to be looked for in a gummy tumor occupying that part of the brain in which the faculty of language resides, or whether it was due to disease of the middle cerebral artery, resulting in stenosis of that vessel, and consequent cerebral anæmia and softening. Since the localization of the faculty of speech in the third frontal convolution of the left cerebral hemisphere by Broca, Hughlings Jackson has announced that the lesion producing aphasia is most commonly due to embolism of the left middle cerebral artery, produced by valvular disease of the heart. Now, it matters not whence comes the cause of the arterial obstruction; and it happens that since Heubner's writings upon endartritis of the cerebral vessels, we have no difficulty in ascribing these conditions, occurring in syphilitic subjects, to cerebral anæmia

following narrowing of the left middle cerebral artery by a purely syphilitic process.

There are, to my mind, ample reasons for the belief that the symptoms in the present case were produced in this manner rather than by a gummy tumor of these parts. It is true, the symptoms began with a convulsive attack; but this has never been repeated; and although convulsions are rare in embolism and softening of the brain, they, nevertheless, are well known to occur. On the other hand, the suddenness of the onset is unlike the effect of a cerebral gummy tumor, which usually reveals its presence gradually, and rarely in the fulminating style here displayed.

At the present time, this patient remains aphasic, or rather, she has a verbal amnesia, and withal, decreased mental power; though this is, by no means, proportionate to her difficulty in speech, as is shown by her bright expression, the readiness with which she recalls many events, and with which she performs her domestic duties. She suffers now, not from syphilitic disease of her brain, but from its relics; from a permanent destruction of brain tissue, the result of a syphilitic process.

And this brings me to the concluding point of this paper. It will be universally recognized that not one of the symptoms of brain disease observed in these patients, presented a feature which could, in any special sense, be termed syphilitic, which could not, equally well, be produced by a non-syphilitic malady. At the same time, they show that widely different morbid conditions may arise from the same source, and that this source, probably more than any other in the pathology of these affections, is within the influence of our art. And it daily happens, that their true nature remains unrecognized, and patients drift into suffering, helplessness, imbecility and death, when the timely and judicious administration of mercury and potassium or sodium iodide could have saved them to life and usefulness. And let it not be forgotten, that if we are to cure these patients, it must be while the *specific* processes are developing or in full activity, when the membrane is hyperæmic and beginning to thicken, the gumma forming, the artery narrowing; and not after the

essential parts have been destroyed or crowded out by the unwelcome stranger.

Usually, it is not difficult to recognize the presence of syphilis in these stages, in view of the curious combinations of symptoms displayed; and it is incumbent upon us, not to be unmindful of the possibility of a syphilitic origin of any given case so that timely advantage of a proper diagnosis may be taken.

The treatment of cerebral syphilis, then, consists in the treatment of processes essentially syphilitic; and it must be kept in mind, that, apart from these, the results of syphilitic disease of the brain are identical with those of various other affections; they are the indelible traces of a battle that has, maybe, long since been fought.

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